

WHAT IS CLAIMED IS:

1. A vessel filter comprising a mounting section having first and second ends and a first and second filtering section, the filter movable between a collapsed position for delivery to the vessel and an expanded position for placement within the vessel, in the expanded position a first end of the first filtering section converges to form a first converging region and a second end of the second filtering section converges to form a second converging region, the first converging region being positioned radially and axially inwardly of the first end of the mounting section and the second converging region being positioned radially and axially inwardly of the second end of the mounting section.
2. The vessel filter of claim 1, wherein the filter is composed of a singular tube having cutouts therein forming a plurality of longitudinal struts.
3. The vessel filter of claim 1, wherein the mounting section includes a plurality of longitudinally extending struts.
4. The vessel filter of claim 1, wherein portions of the filter connecting the first and second end of the mounting sections to the respective converging region angle radially inwardly and toward a center of the filter to direct particles toward the center.
5. The vessel filter of claim 3, wherein the longitudinal struts include roughened surfaces to engage the vessel wall to increase retention.
6. The vessel filter of claim 3, further comprising a plurality of vessel engaging members with pointed ends extending from the longitudinal struts to engage the vessel wall to increase retention.
7. The vessel filter of claim 1, wherein the filter is composed of shape memory material.

8. The vessel filter of claim 1, wherein opposing ends of at least one of the longitudinal struts are out of phase.
9. The vessel filter of claim 3, wherein the longitudinal struts are spaced circumferentially about 60 degrees apart.
10. The vessel filter of claim 1, wherein the filter has a plurality of spaced apart struts, the struts converging toward a center of the filter.
11. The vessel filter of claim 1, wherein at least one of the struts has varying widths along its length.
12. An apparatus comprising a vessel filter comprising a tubular member having a plurality of cutouts formed therein forming a series of spaced apart struts and movable between a first insertion configuration and a second deployed configuration, in the second configuration the struts extend substantially longitudinally and form a mounting section extending from a first end to a second end, the struts further extending from the first end and from the second end radially inwardly towards a center of the filter to form first and second filtering sections such that the filtering sections are each positioned nearer a center of the filter than the first and second ends of the mounting section.
13. The vessel filter of claim 12, wherein the longitudinal struts include a plurality of vessel engaging members extending therefrom to engage the vessel wall to increase retention.
14. The vessel filter of claim 12, wherein the filter is composed of a shape memory tubular material having cutouts therein.
15. The vessel filter of claim 12, wherein end portions of at least one of the longitudinal struts are out of phase.

16. The vessel filter of claim 12, wherein the portion extending radially inwardly of at least one of the longitudinal struts has a width different than a longitudinally extending portion of the strut.
17. The vessel filter of claim 12, further comprising a rib connecting adjacent longitudinal struts.
18. A method of implanting a vessel filter in a patient's body comprising the steps of providing a vessel filter having a mounting section and first and second filtering sections each terminating in a converging end region;
providing a tubular delivery member containing the vessel filter in a collapsed configuration having a first diameter;
inserting the vessel filter in the collapsed configuration adjacent a surgical site;
deploying the vessel filter from the delivery member so the vessel filter moves to a placement configuration having a diameter larger than the first diameter and the converging end regions of the filtering sections are closer to a center of the filter than end portions of the mounting section.
19. The method of claim 18, wherein the vessel filter is composed of shape memory material and movement of the vessel filter to the placement configuration moves the vessel filter towards a memorized configuration.
20. The method of claim 19, further comprising the step of removing the implanted vessel filter from the patient's body.